

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-3, 5-6, 8, 10-14 and 21-32 are pending in the application, with claims 1, 5, 8, 10, 21, 28 and 30-31 being the independent claims. Claims 5, 8, 10, 21, 28 and 30 are sought to be amended. Applicants reserve the right to prosecute similar or broader claims, with respect to the amended claims, in the future. This amendment is believed to introduce no new matter, and its entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Objection to the Specification***

Page 2 of the Office Action objects to claim 10 as allegedly lacking antecedent basis within the specification as to the term “computer program product.” For at least the following reasons, Applicants respectfully traverse the rejection. The objection is tantamount to requiring the specification to support claim language *ipsis verbis*, that is, in the same words as recited in the claims. This requirement stands in direct contrast to well-established controlling law. Simply put, there is no requirement that claims be drafted in the same language found in the specification. *Ex Parte Holt*, 19 U.S.P.Q. 2d 1211 (1991) (restating that “it is well established that the invention claimed need not be described *ipsis verbis* in order to satisfy the disclosure requirement of § 112”); MPEP § 2163(II)(A)(3)(a) (If a skilled artisan would have understood the inventor to be in

possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. See, e.g., *Vas-Cath*, 935 F.2d at 1563, 19 USPQ2d at 1116; *Martin v. Johnson*, 454 F.2d 746, 751, 172 U.S.P.Q. 391, 395 (CCPA 1972) (stating “the description need not be in *ipsis verbis* [i.e., “in the same words”] to be sufficient”) (Emphasis added). There is no serious question that computer readable storage media such as semiconductor disks, magnetic disks, and optical disks encoded with computer readable program code are examples of computer program products. As a result, Applicants respectfully submit the term “computer program product” has sufficient antecedent basis by the exemplary computer program products provided in the specification and is effectively a subset of the computer usable media disclosed in the specification. Accordingly, Applicants respectfully request the Examiner withdraw the rejection of claim 10 as failing to provide proper antecedent basis set forth on page 2 of the office action.

***Rejections under 35 U.S.C. § 101***

Page 2 of the Office Action rejects claims 10-14 and 30 under 35 U.S.C. § 101 as directed to non-statutory subject matter. For at least the following reasons, Applicants respectfully traverse the rejection. Claim 10-14 and 30 each recite “a computer readable storage medium.” Paragraph [0054] of the specification, on the other hand, refers to a “computer usable medium.” Applicants respectfully submit that, as used in claims 10-14 and 30, the term “a computer readable storage medium” includes any known computer useable medium including semiconductor disks, magnetic disks, and optical disks, but

does not include “a computer data signal ... embodied in a computer useable transmission medium.” Accordingly, Applicants respectfully request the Examiner withdraw the rejection of claims 10 and 30, and dependent claims 11-14, under 35 U.S.C. § 101 set forth in page 2 and 3 of the Office Action.

***Rejections under 35 U.S.C. § 102***

Claims 21-23 and 25-27

Page 13 of the Office Action rejects claims 21-23 and 25-27 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,740,392 to Brennan (“Brennan”). For at least the following reasons, Applicants respectfully request the Examiner reconsider and withdraw the rejection.

Claim 21 recites features that distinguish over the applied reference. For example, claim 21 recites, in part, “comparing, in parallel with (a), a tag for each of said plurality of instructions to an *address*, wherein *each tag is associated with a single instruction.*”

Brennan appears to disclose a system in which a single value is used to determine whether an instruction is of a first type or a second type. This value, 0FH, corresponds to so-called 0FH-mapped instructions (*See*, Brennan at 5:66-67.) 0FH-mapped instructions have as their most significant opcode the single value 0FH. (*Id.*) Thus, to identify a 0FH-mapped instruction, the “0FH detectors 36 generate a set of signals ... that indicate whether the corresponding instruction bytes are 0FH.” Thus, Brennan is limited to selecting between two instruction set types - 0FH-mapped instructions, and non-0FH-mapped instructions. As recited in claim 21, on the other hand, a comparison

is made between “a tag for each of said plurality of instructions to an *address*, wherein *each tag is associated with a single instruction*.” Consequently, the selection recited in claim 21 is not limited to comparing a tag where a tag is associated with an entire instruction set as disclosed in Brennan.

Moreover, as recited in claim 21, the tag is compared to an *address*. However, nowhere does Brennan describe any selection based on a comparison to an address. Thus, Applicants respectfully submit that claim 21 is not anticipated by Brennan for this reason as well.

Accordingly, Applicants respectfully submit Brennan does not disclose each and every element of claim 21. Accordingly, Applicants respectfully request the Examiner reconsider and withdraw the rejection of claim 21, and the dependent claims 22-23 and 25-27.

### ***Rejections under 35 U.S.C. § 103***

#### **Claim 31**

On page 3 of the Office Action claim 31 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Brennan in view of U.S. Patent No. 7,069,420 to Overkamp (“Overkamp”). For at least the following reasons, Applicants respectfully request the Examiner reconsider and withdraw the rejection.

Claim 31 recites features that distinguish over the applied references. For example claim 31 recites, in part, “a selection circuit to select one of the mapped instructions for decoding, wherein the parallel mapper is disposed in the pipelined computer system *upstream* from the selection circuit, and wherein the parallel

mapping, tag comparison, and selection are completed in a single pipeline stage; and a decoder for decoding the selected mapped instruction for execution by a processor.”

Page 3 of the Office Action refers to “fig. 5 for details of the *decoder as parallel mappers*.” However, as shown in fig. 5, the decoder is *downstream* from the selection circuit multiplexer, directly contrary to the referenced element of claim 31.

On page 18 of the Office Action, the Examiner contends that “the disposition [of the parallel mapper] does not provide for limitations on the connection or order of process or structure and therefore the disposition does not provide a difference between the Brennan reference and the claimed invention.” Thus, the Examiner appears to contend that as long as each of the elements recited in a claim is present in a cited reference, the cited reference anticipates the claim, regardless of the order or arrangement of those elements in the claim. Applicants respectfully disagree.

For example, as the Federal Circuit held recently, “the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” See *Net Moneyin, Inc. v. Verisign, Inc.*, No. 2007-1565, page 15 (Fed. Cir. 10/20/2008) (emphasis added) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). Applicants respectfully assert claim 31 recites precisely such an arrangement between the parallel mapper, selection circuit and the decoder. That is, expressly the parallel mapper is upstream from the selection circuit and expressly the decoder is downstream from the selection circuit. As required by *Net Moneyin*, this arrangement of elements in the claim must be given effect. Moreover, when such consideration is given, the conclusion that must be reached is that in Brennan,

to the extent it discloses a parallel mapper, selection circuit, and decoder, they are disclosed in virtually the exact opposite order recited in claim 21. Accordingly, Applicants respectfully assert that not only do the applied references not disclose all of the claim elements, but even assuming the applied references do disclose all of the claim elements, the applied references do not disclose those elements as arranged in the claim.

Page 4 of the Office Action states that “Brennan did not expressly detail a decoder decoding the selected mapped instruction for execution by the processor.” The Office Action relies on Overkamp to teach or suggest this feature and states that “Overkamp however taught this limitation.” (*See* Office Action, page 4). Overkamp does not cure the deficiencies of Brennan, and the reference cannot be used to establish a prima facie case of obviousness. Accordingly, Applicants respectfully request the Examiner reconsider and withdraw the rejection of claim 31.

Claims 1-3, 5, 6, 8, 10-14, 30 and 32

Page 4 of the Office Action rejects claims 1-3, 5, 6, 8, 10-14, 30 and 32 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brennan in view of Overkamp and further in view of U.S. Patent No. 6,442,674 to Lee (“Lee”). For at least the following reasons, Applicants respectfully request the Examiner reconsider and withdraw the rejection.

Claims 1 and 30 recite, in part, “a multiplexor for receiving said PIWF configurations from said plurality of mappers and selecting, in response to a selector signal.”

On page 5, the Office Action contends this feature is disclosed in Brennan where “multiplexer (see mux) for [receiving input from the] mappers and selecting” and

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“receiving the PIWF configurations from the plurality of mappers (decoders).” (See Office Action, page 5). Thus, it appears the Examiner is equating “OFH shifters” with “multiplexers” as well as equating “mappers” with “decoders.” Brennan does disclose “OFH shifters 38 can be implemented using a mux, a shifter, or other circuitry for performing a shifting function.” (See Brennan col. 6, ll. 50-53). Brennan further discloses that the parallel OFH shifters 38 receive instructions from the instruction cache 30. (See Brennan, FIG. 4). Therefore, page 5 of the Office Action, describes the decoders as being situated *after* the parallel OFH shifters. However, if the decoders are after the parallel OFH shifters, the parallel OFH shifters cannot *receive* bytes from the parallel length decoders as alleged. Therefore, Brennan does not disclose “a multiplexer for receiving said PIWF configurations from said plurality of mappers and selecting,” as recited in claims 1 and 30.

Applicants respectfully submit that the disclosures of Overkamp and Lee are not sufficient to overcome the deficiencies of Brennan in this respect with regards to claims 1 and 30. Consequently, Applicants respectfully assert the combination of Brennan in view of Overkamp and further in view of Lee do not render claims 1 and 30 invalid as obvious over the proposed combination. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1 and 30, and dependent claims 2-3, under 35 U.S.C. § 103(a) as being unpatentable over Brennan in view of Overkamp and further in view of Lee as set forth on page 4 of the Office Action.

Claim 5 recites, in part, “mapping each instruction of said instruction set to a corresponding PIWF configuration,” and “selecting a desired one of said corresponding PIWF configurations, after said mapping, for decoding and execution by the processor.”



As discussed above, Brennan discloses a decoder that is downstream from the selection circuit multiplexer. Thus, a selected instruction from the instruction cache is sent to a multiplexer that performs a shifting function and then the decoding/mapping is performed. Therefore, Applicants respectfully assert that Brennan does not teach or suggest “mapping each instruction of said instruction set to a corresponding PIWF configuration,” and “selecting a desired one of said corresponding PIWF configurations, after said mapping, for decoding and execution by the processor,” as recited in claim 5.

Applicants respectfully submit that the disclosure of Overkamp and Lee are not sufficient to overcome the deficiencies of Brennan in this respect with regards to claim 5. Consequently, Applicants respectfully assert the combination of Brennan in view of Overkamp and further in view of Lee do not render claim 5 invalid as obvious over the proposed combination. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 5, and its dependent claim 6, under 35 U.S.C. § 103(a) as being unpatentable as set forth on page 4 of the Office Action.

Claim 8 recites, in part, “a multiplexor for selecting and receiving, in response to a selector signal, one of said PIWF configurations from said plurality of mappers for decoding by said decoder and execution by said execution unit.”

As discussed above, Brennan discloses a decoder that is downstream from the selection circuit multiplexer. Thus, a selected instruction from instruction cache is sent to a multiplexer that performs a shifting function and then the decoding/mapping is performed. Therefore, Applicants respectfully assert that Brennan does not teach or suggest “a multiplexor for selecting and receiving, in response to a selector signal, one of



said PIWF configurations from said plurality of mappers for decoding by said decoder and execution by said execution unit,” as recited in claim 8.

Applicants respectfully submit that the disclosure of Overkamp and Lee are not sufficient to overcome the deficiencies of Brennan in this respect with regards to claim 8. Consequently, Applicants respectfully assert the combination of Brennan in view of Overkamp and further in view of Lee do not render claim 8 invalid as obvious over the proposed combination. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Brennan in view of Lee set forth on page 4 of the Office Action.

Claim 10 recites “providing a multiplexor for receiving said PIWF configurations from said plurality of mappers and selecting, in response to a selector signal, a desired one of said PIWF configurations for decoding and execution by said microprocessor core.”

As discussed above, Brennan discloses a decoder that is downstream from the selection circuit multiplexer. Thus, a selected instruction from instruction cache is sent to a multiplexer that performs a shifting function and then the decoding/mapping is performed. Therefore, Applicants respectfully assert that Brennan does not teach or suggest “providing a multiplexor for receiving said PIWF configurations from said plurality of mappers and selecting, in response to a selector signal, a desired one of said PIWF configurations for decoding and execution by said microprocessor core,” as recited in claim 10.

Applicants respectfully submit that the disclosure of Overkamp and Lee are not sufficient to overcome the deficiencies of Brennan in this respect with regards to claim

10. Consequently, Applicants respectfully assert the combination of Brennan in view of Overkamp and further in view of Lee do not render claim 10 invalid as obvious over the proposed combination. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 10, and its dependent claims 11-14, under 35 U.S.C. § 103(a) as being unpatentable as set forth on page 4 of the Office Action.

Regarding claim 32, on page 8 of the Office Action, the Examiner states that “Overkamp taught a loop buffer” and that “Lee taught a fill buffer.” However, Overkamp and Lee are not used by the Examiner to teach or suggest, nor does Overkamp and Lee teach or suggest, alone or in combination, at least the above noted distinguishing features of independent claim 31. Therefore, Overkamp and Lee do not cure the deficiencies of Brennan, and the references cannot be used in combination therewith to establish a *prima facie* case of obviousness. Dependent claim 32 depends from claim 31, and therefore is also distinguishable over the applied references for at least the reasons stated above, as well as for its additional distinguishing features. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection as per claim 32.

On page 14 of the Office Action, claim 28 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brennan in view of Overkamp. For at least the following reasons, Applicants respectfully request the Examiner reconsider and withdraw the rejection.

Claim 28 recites, in part, “a multiplexor for receiving said PIWF configurations from said mapper and for selecting, in response to a selector signal, a desired one of said PIWF configurations for decoding and execution by the processor.”

As discussed above, Brennan discloses a decoder that is downstream from the selection circuit multiplexer. Thus, a selected instruction from instruction cache is sent to a multiplexer that performs a shifting function and then the decoding/mapping is performed. Therefore, Applicants respectfully assert that Brennan does not teach or suggest “a multiplexor for receiving said PIWF configurations from said mapper and for selecting, in response to a selector signal, a desired one of said PIWF configurations for decoding and execution by the processor,” as recited in claim 28.

Applicants respectfully submit that the disclosure of Overkamp and Lee are not sufficient to overcome the deficiencies of Brennan in this respect with regards to claim 28. Consequently, Applicants respectfully assert the combination of Brennan in view of Overkamp and further in view of Lee do not render claim 28 invalid as obvious over the proposed combination. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 28 under 35 U.S.C. § 103(a) as being unpatentable over Brennan in view of Lee set forth on page 14 of the Office Action.

On page 15 of the Office Action, claim 24 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brennan in view of Lee. For at least the following reasons, Applicants respectfully request the Examiner reconsider and withdraw the rejection.

Claim 24 depends ultimately from independent claim 21. As explained above, claim 21 is believed patentable over the proposed combination. Consequently, Applicants respectfully submit that claim 24, which depends from claim 21 is patentable over the proposed combination as well. Accordingly, Applicants respectfully request the Examiner reconsider and withdraw the rejection of claim 24 under 35 U.S.C. § 103(a) as

being unpatentable over Brennan in view of Lee as set forth on page 15 of the Office Action.

On page 16 of the Office Action, claim 29 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brennan in view of Overkamp and further in view of Lee. For at least the following reasons, Applicants respectfully request the Examiner reconsider and withdraw the rejection.

Claim 29 depends ultimately from independent claim 28. As explained above, claim 28 is believed patentable over the proposed combination. Consequently, Applicants respectfully submit that claim 29, which depends from claim 28 is patentable over the proposed combination as well. Accordingly, Applicants respectfully request the Examiner reconsider and withdraw the rejection of claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Brennan in view of Overkamp and further in view of Lee as set forth on page 16 of the Office Action.

### ***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

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Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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